disputed question of peri-uterine inflammation. The author's own deductions are most judicious. "I deem it best," he concludes (page 251), "to take a broad, or generic, view of the subject, and to treat it as if it were a single entity, and not made up of two entities."

In the chapter on radical operations for the cure of cancer of the cervix high amputation is dismissed with brief mention. As ordinarily employed at the present day, "high amputation" implies the separation of the bladder and posterior fornix, and not the simple stripping up of the tissues around the cervix "for half an inch or more." Freund's operation should be omitted from modern text-books. Under the palliative treatment of fibro-myomata we miss any reference to Apostoli's method, in fact the author seems to have had but slight experience with the use of electricity in this connection.

Some of the matter in the chapters on diseases of the tubes and ovaries we have encountered before in another place. The pathology of these affections is rather scanty, but the symptomatology is set forth with the author's accustomed felicity of expression. An exceedingly interesting discussion of the question of menstruation after oöphorectomy will be found on pages 405 to 413 inclusive; the changes that occur in the female after this operation are also described here. The whole subject of ovarian cysts and ovariotomy has been carefully rewritten and brought up to date. Hysterectomy has a separate chapter, Martin's method and illustrations being adopted.

The three concluding lessons remain very much as before, and will ever bear testimony to the fearlessness of their wise and witty author. We have sometimes heard sharp criticism of the final chapter, but in our opinion it reflects only the highest credit upon the writer who has dared to state delicately, and yet plainly, what other teachers have known, but have passed over in silence. It is well that it has been left unchanged.

In this brief *résumé* we have been able merely to hint at the good points in this excellent work. As we said before, it is so familiar to the profession that it has been our pleasant task rather to mention the improvements upon former editions. The clear type, binding, illustrations, and index are even more commendable than before. H. C. C.

OSNOVUZ PERKUTOMETRI I PALPATOMETRI KAK METODOV KLINICHESKAGO IZSLEDOVANIGA, SOCHINENIE VLADIMIR-MARIANA VIKENTIEVICHA PHILIPOVICHA. Odessa: 1886.

ELEMENTS OF PERCUTOMETRY AND PALPATOMETRY AS METHODS OF CLINICAL INVESTIGATION. By VLADIMIR-MARIANA VIKENTIEVICH PHILIPOVICH.

DR. PHILIPOVICH gives an account of several series of observations made with an ingenious percussor he has devised, which indicates the force of the blow struck. His object was to utilize, for diagnostic and prognostic purposes, a fact which had been observed independently by himself and Dr. James Ross, viz., that a slight tap on the chest wall over the pectoral muscles is followed by a transient elevation of the surface in many patients with pulmonary affections, while a really hard blow with a similar instrument is required to produce the same effect in healthy subjects. The explanation of the phenomenon is that so long as the muscular fibres enjoy their normal irritability and conductivity the wave produced by the mechanical stimulus travels uniformly along the muscle in both directions away from the centre of irritation, but that if the relation between the irritability and conductivity is altered, either by the increase of the former or the decrease of the latter, this wave is arrested, with the result of producing a partial and local contraction giving the appearance externally of an elevation. In a healthy person the conductivity of the muscular fibres is lowered or destroyed by a smart blow, and so when the percussor is struck with sufficient force the muscle refuses to pass on the contracting wave and a local elevation is the result. This phenomenon is named by Dr. Philipovich "loco-tetanus." It is most easily produced, as was recognized by Ross, in such muscles as have a hard surface under them, as the pectorals, deltoid, supraspinatus, and infraspinatus. Other circumstances favorable to the production of local tetanus are a high body temperature and muscular fatigue.

The pectoral muscles of a hundred healthy men aged twenty-one years, were examined by what may be called the quantitative percussion method. The lowest force which produced "loco-tetanus" being a tap of 400 grammes, while the highest required was 2000 grammes, the mean numbers being 750 grammes for the right side, and 850 grammes for the left. In almost all the cases where the phenomenon was produced with a low degree of force, the men had a chest measurement less than half their height, and had either been rejected as recruits, or their military service postponed in order to enable them to improve. Much lower figures than these were obtained in the examination of diseased subjects, less than 100 grammes being sometimes sufficient. The lowest figures of all were recorded in phthisis, and next to that in pleurisy and pneumonia. It was invariably found that the side of the chest where the disease was the more marked, gave the "loco-tetanus" with the lower degree of force. In a case of dry pleurisy of the right side, the difference was very noticeable, the force required on the healthy side being 550 grammes, while on the diseased side one of 150 grammes was sufficient. In infectious diseases, as in typhus, the author was unable to detect any more reduction than could be accounted for by the high temperature alone.

The force commonly used in percussion was estimated by measuring that employed by eighteen different medical men, who were, as far as possible, kept in ignorance that their manipulation was being in any way tested. The lowest force varied only between 200 and 250 grammes, the medium force between 400 and 900 grammes, and the highest from 650 to 1200 grammes. Any force above 700 grammes is said to be generally painful, but surely this, as well as "local tetanus," must depend greatly on the form and hardness of the percussor. In Dr. Philipovich's instrument the blow is given with a metal ball covered with gutta-percha; no mention is made of the size of the ball, or of the thickness or hardness of the gutta-percha. If these instruments ever come into general use, it will be necessary to have them all tested by a common standard, and some means will be requisite for preventing the changes of temperature from affecting the elasticity of the gutta-percha. The head of the percussor can also be used to test the degree of pressure which can be borne without pain, corresponding in fact to Eulenberg's paræsthesiometer.

In a healthy condition this is generally from 1500 to 2000 grammes. In some cases of cardiac disease, endoarteritis, and in many other affections, the degree of tenderness appears to furnish an indication of the course of the disease. The author gives diagrams and charts showing how the surface may be mapped out by iso-analgesic lines and curves, constructed like those of a temperature chart, showing the variations in tenderness of particular spots from day to day. He draws attention to a fact which is quite appreciable by the hand alone, that a remarkable increase of tenderness over the spleen occurs very shortly before the defervescence of enteric fever takes place, so that the latter change may be confidently predicted within two days after the splenic alteration has been noted.

THE REFRACTION OF THE EYE. A MANUAL FOR STUDENTS. By GUSTAVUS HARTRIDGE, F.R.C.S., Consulting Ophthalmic Surgeon to St. Bartholomew's Hospital, etc. Third edition. 12mo. pp. xvi., 240. With ninety-six illustrations. Philadelphia: P. Blakiston, Son & Co., 1888.

This manual, in many respects the most complete of the smaller treatises on refraction, accommodation, and convergence, seems to have met an actual want on the part of students of ophthalmology; comparatively few of whom, it must be confessed, are prepared by previous mental discipline, to appreciate, or fully profit by, such exhaustive (and to the unprepared, exhausting) treatises as those of Helmholtz, Donders, and Landolt. But though this work has deservedly found favor with both teachers and students, it is far from being an ideal text-book; and it remains true that about the best short treatises on the subject are to be found in the chapters devoted to refraction in some of our standard works on ophthalmology. For instance, we find here on the first page the sentence, "Rays of light diverge, and the amount of divergence is proportionate to the distance of the point from which they come; the nearer the source of the rays, the more they diverge." Of course, what is meant here is, that the angular divergence of the extreme rays included within a certain space, as the width of a lens or the pupil, is inversely proportioned to the distance of the point from which they come; but the first part of the sentence quoted might be taken as teaching the exact opposite of this, while the last part is simply contradictory of the first. To one acquainted with the fact such a statement looks obscure enough; but to one who desires to learn the fact from the statement, it must be discouraging indeed. We give this instance so much more prominence than it would otherwise deserve, because it illustrates the worst fault of the book, crude, imperfect statement. In this respect there has been notable improvement since the first issue; but much room for further improvement remains. He who aspires to write a text-book, to make such a subject clear to the raw medical student, has need of a high order of literary skill.

The additions to this edition are scattered throughout the work, and are generally well incorporated, the most extensive being the quotation *in extenso* of the description of the shadow-test, with the plane mirror; first published in this journal in April, 1885. Several cuts have been added, or new ones substituted for old; but the cuts are in general not so well printed as in the first edition. E. J.